

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

Date of writing Report A-12 1942 When handed in at Local Office 30 MAR 1943 1942 Port of HULL

No. in Survey held at HULL Date, First Survey 31. 7. 42 Last Survey 17. 2. 1943
 Reg. Book (Number of Visits 63)

on the H.M.T. GRENADIER Tons { Gross 580
 Net 182

Built at BEVERLEY By whom built Cook Wellman & Gemmells Yard No. 703 When built 1943

Engines made at HULL By whom made Chas. D. Holmes & Co Engine No. 1634 When made 1943

Boilers made at HULL By whom made Chas. D. Holmes & Co Boiler No. 1634 When made 1943

Registered Horse Power _____ Owners The Admiralty Port belonging to _____

Nom. Horse Power as per Rule 165 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which vessel is intended Government Service

ENGINES, &c.—Description of Engines Triple Expansion CONTRACT Revs. per minute 123

Dia. of Cylinders 15" 25" 42" Length of Stroke 27" No. of Cylinders 3 No. of Cranks 3

Crank shaft, dia. of journals as per Rule 8.37" as fitted 8 1/2" Crank pin dia. 8 1/2" Crank webs Mid. length breadth 16 1/2" Mid. length thickness 5 1/2" Thickness parallel to axis 5 1/2" Thickness around eye-hole 3 13/16"

Intermediate Shafts, diameter as per Rule _____ as fitted 8 1/2" Thrust shaft, diameter at collars as per Rule 8.37" as fitted 8 1/2"

Tube Shafts, diameter as per Rule _____ as fitted None Screw Shaft, diameter as per Rule 8.87" as fitted 9" Is the tube shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as per Rule .566 as fitted 19/32" Thickness between bushes as per Rule .311 as fitted 1/2" Is the after end of the liner made watertight in the propeller boss Yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner Continous

If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive _____

If two liners are fitted, is the shaft lapped or protected between the liners _____ Is an approved Oil Gland or other appliance fitted at the after end of the tube at _____ If so, state type None Length of Bearing in Stern Bush next to and supporting propeller 42"

Propeller, dia. 10'-9" Pitch 11'-0" No. of Blades 4 Material Cl whether Moveable Slid Total Developed Surface 42 1/2 sq. feet

Feed Pumps worked from the Main Engines, No. 2 Diameter 2 7/8" Stroke 16" Can one be overhauled while the other is at work Yes

Bilge Pumps worked from the Main Engines, No. 2 Diameter 2 7/8" Stroke 16" Can one be overhauled while the other is at work Yes

Feed Pumps { No. and size One 6" x 4 1/4" x 6" Duplex Pumps connected to the Main Bilge Line { No. and size One 7" x 5" x 6" Duplex Also one 3" How driven Steam How driven Independent Steam Steam Ejector

Ballast Pumps, No. and size One 7" x 5" x 6" Duplex Lubricating Oil Pumps, including Spare Pump, No. and size None

Are two independent means arranged for circulating water through the Oil Cooler None Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps:—In Engine and Boiler Room 2 @ 2" Dia One @ 3" Dia

In Pump Room Yes In Holds, &c. One @ 2" Dia in each of the following spaces:— Magazine, Gunner Store, Spirit Room, D.C. Store, Frid. Hold and After Peak

Main Water Circulating Pump Direct Bilge Suctions, No. and size One 5" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size One 3" Bilge Ejector (Steam) Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes Yes

Are the Bilge Suctions in the Machinery Space led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes

Are all Sea Connections fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks B.M.

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes Are the Overboard Discharges above or below the deep water line Above

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Yes Are the Blow Off Cocks fitted with a spigot and brass covering plate Yes

What Pipes pass through the bunkers Fwd. Suctions How are they protected Plated

What pipes pass through the deep tanks _____ Have they been tested as per Rule _____

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes

Is the arrangement of Valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one compartment to another Yes Is the Shaft Tunnel watertight _____ Is it fitted with a watertight door _____ worked from _____

MAIN BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 2551 sq. ft.

Which Boilers are fitted with Forced Draft Yes Which Boilers are fitted with Superheaters None

No. and Description of Boilers One S.B. Working Pressure 225 lb / sq. in.

IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes

IS A DONKEY BOILER FITTED? No If so, is a report now forwarded? _____

Can the donkey boiler be used for domestic purposes only _____

PLANS. Are approved plans forwarded herewith for Shafting 19-8-42 Main Boilers 29-5-42 Auxiliary Boilers _____ Donkey Boilers _____

(If not state date of approval)

Superheaters NONE General Pumping Arrangements 21-7-42 Oil fuel Burning Piping Arrangements NONE

SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes

State the principal additional spare gear supplied See attached list.

The foregoing is a correct description.
 FOR CHARLES D. HOLMES & CO., LTD.
W.R. Evans Manufacturer.



GRENADIER.

Dates of Survey while building
 During progress of work in shops -- 1942. July 31, Aug. 7, 14, 19-20, Sept. 4, 11, 18, 25, Oct 2, 9, 12, 13, 15, 16, 20, 21, 22, 24, 29, 30, 1943
 Nov. 3, 4, 5, 6, 10, 12, 18, 19, 30, Dec. 1, 3, 7, 14, 16, 23, 24, 30, 31, Jan. 1, 2, 4, 5, 8, 11, 14, 15, 16, 18, 20
 During erection on board vessel --- 21, 22, 26, 27, 28, 29, Feb. 2, 3, 6, 9, 10, 16, 17
 Total No. of visits 63

Dates of Examination of principal parts
 Cylinders 13/10/42, 23/10/42, 24/10/42 Slides 30/10/42 Covers 13/10/42, 22/10/42, 24/10/42
 Pistons 6/11/42, 10/11/42 Piston Rods 24/10/42 Connecting rods 30/10/42
 Crank shaft 29-10-42 Thrust shaft 7-8-42 Intermediate shafts 13/10/42
 Tube shaft None Screw shaft 19-8-42 Propeller 11/9/42
 Stern tube 11/9/42 Engine and boiler seatings 19/11/42 Engines holding down bolts 5/1/43

Completion of fitting sea connections 11/9/42
 Completion of pumping arrangements 27/1/43 Boilers fixed 3/1/43 Engines tried under steam 27/1/43, 10/2/43
 Main boiler safety valves adjusted 27/1/43 Thickness of adjusting washers P. 15/32, S 7/16
 Crank shaft material Steel Comp. 8737, 8738, 8739, 8740, 8741, 8742, 8743, 8744, 8745, 8746, 8747, 8748, 8749, 8750, 8751, 8752, 8753, 8754, 8755, 8756, 8757, 8758, 8759, 8760, 8761, 8762, 8763, 8764, 8765, 8766, 8767, 8768, 8769, 8770, 8771, 8772, 8773, 8774, 8775, 8776, 8777, 8778, 8779, 8780, 8781, 8782, 8783, 8784, 8785, 8786, 8787, 8788, 8789, 8790, 8791, 8792, 8793, 8794, 8795, 8796, 8797, 8798, 8799, 8800, 8801, 8802, 8803, 8804, 8805, 8806, 8807, 8808, 8809, 8810, 8811, 8812, 8813, 8814, 8815, 8816, 8817, 8818, 8819, 8820, 8821, 8822, 8823, 8824, 8825, 8826, 8827, 8828, 8829, 8830, 8831, 8832, 8833, 8834, 8835, 8836, 8837, 8838, 8839, 8840, 8841, 8842, 8843, 8844, 8845, 8846, 8847, 8848, 8849, 8850, 8851, 8852, 8853, 8854, 8855, 8856, 8857, 8858, 8859, 8860, 8861, 8862, 8863, 8864, 8865, 8866, 8867, 8868, 8869, 8870, 8871, 8872, 8873, 8874, 8875, 8876, 8877, 8878, 8879, 8880, 8881, 8882, 8883, 8884, 8885, 8886, 8887, 8888, 8889, 8890, 8891, 8892, 8893, 8894, 8895, 8896, 8897, 8898, 8899, 8900, 8901, 8902, 8903, 8904, 8905, 8906, 8907, 8908, 8909, 8910, 8911, 8912, 8913, 8914, 8915, 8916, 8917, 8918, 8919, 8920, 8921, 8922, 8923, 8924, 8925, 8926, 8927, 8928, 8929, 8930, 8931, 8932, 8933, 8934, 8935, 8936, 8937, 8938, 8939, 8940, 8941, 8942, 8943, 8944, 8945, 8946, 8947, 8948, 8949, 8950, 8951, 8952, 8953, 8954, 8955, 8956, 8957, 8958, 8959, 8960, 8961, 8962, 8963, 8964, 8965, 8966, 8967, 8968, 8969, 8970, 8971, 8972, 8973, 8974, 8975, 8976, 8977, 8978, 8979, 8980, 8981, 8982, 8983, 8984, 8985, 8986, 8987, 8988, 8989, 8990, 8991, 8992, 8993, 8994, 8995, 8996, 8997, 8998, 8999, 9000
 Identification Mark 7581 CP. 23/6 Thrust shaft material I.F. Steel Identification Mark 8806, 27/1/43

Intermediate shafts, material I.F. Steel Identification Marks 8741 CP. 7/4/42 Tube shaft, material None Identification Mark ---
 Screw shaft, material I.F. Steel Identification Mark 8739 CP. Steam Pipes, material Steel Test pressure 675 lb Date of Test 11-1-43
 Is an installation fitted for burning oil fuel no Is the flash point of the oil to be used over 150° F. ✓

Have the requirements of the Rules for the use of oil as fuel been complied with ✓
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo no If so, have the requirements of the Rules been complied with ✓
 If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with ✓
 Is this machinery duplicate of a previous case No. If so, state name of vessel Design based on "LADY MADELEINE."

General Remarks (State quality of workmanship, opinions as to class, &c.)

The Machinery of this vessel has been constructed in accordance with the approved Admiralty plans, the Specifications, and the Society's rules, of tested material supplied by firms approved by the Society.
 The Workmanship and material are good.
 The Machinery and Auxiliaries have been fitted aboard and when tried under steam at or near full power as practicable in the basin were found satisfactory in every respect.
 The Vessel is eligible, in our opinion, she closed to have the record of $\frac{1}{2}$ L.M.C. 2,43. and T.S. (C.I.) and the Notation T. 30, 15", 25", 42" - 27".
 165. NHP. 225 lb. 15B. 3 cf. G.S. 64#. H.S. 2551. F.O.

None

The amount of Entry Fee	£ 4	When applied for, 27 FEB 1943
Special Spec.	£ 40	
Donkey Boiler Fee	£ 41	When received, 19
Travelling Expenses (if any)	£	

W. Shields & J. Sturges
 Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute
 Assigned

